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Decarbonizing the Belt and Road

A GREEN FINANCE ROADMAP

EXECUTIVE SUMMARY

TSINGHUA PBCSF 清华五道口

IN ASSOCIATION WITH

vivid economics

ClimateWorks FOUNDATION

ABOUT THIS REPORT

Decarbonizing the Belt and Road: A Green Finance Roadmap provides a world-first view of potential carbon scenarios across the 126 countries involved in China's Belt and Road Initiative, currently accounting for almost a quarter of global GDP. The report highlights the imperative of urgent action to drastically reduce future carbon trajectories if there is to be any likelihood of achieving the Paris Agreement on climate, and sets out a roadmap of how to do that focused on leveraging financial flows and related policies and business communities.

Decarbonizing the Belt and Road: A Green Finance Roadmap is a collaboration between the Tsinghua University Center for Finance and Development, Vivid Economics and the Climateworks Foundation.

Comments and requests can be sent to either of the lead authors.

English and Mandarin summary and full versions of the report can be downloaded at: www.vivideconomics.com/publications/decarbonizing-the-belt-and-road-initiative-a-green-finance-roadmap

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Opinions expressed in the report are those of the authors and do not necessarily reflect the views of the partner institutions or any other organisations with which the authors are involved. Any errors and omissions are the sole responsibility of the authors.

Decarbonizing the Belt and Road

A GREEN FINANCE ROADMAP - EXECUTIVE SUMMARY

Most of the world's focus has rightly been on today's major emitting countries when it comes to fighting the battle with climate change.

From a forward-looking perspective, however, the biggest climate risk and opportunity lies in our ability to support a low carbon development pathway for the group of more than 120 nations (countries that have signed the B&R MOU with China as of April 2019) that have signed up to China's Belt and Road Initiative ('BRI').

The BRI was proposed by China in 2013, focusing mainly on mobilizing capital for infrastructure investments and improving economic connectivity of these nations, most of which are still relatively low-income, developing countries.

The 126 countries involved in the BRI ('B&RCs'), excluding China, currently account for about 23% of the world's GDP and about 28% of global carbon emissions. If their current carbon-intensive growth model continues, these percentages are likely to grow dramatically over the next two decades.

Aggregated growth and carbon scenarios for B&RCs have been analysed for the first time by the authors of this report, drawing extensively from the work and wisdom of many others.

The results indicate that, based on historical infrastructure investment patterns and growth projections, key B&RCs are currently on track to generate emissions well above 2-Degree Scenario ('2DS') levels, the upper limit of the Paris Agreement's temperature increase target. **Our estimates show that failure to rein in the growth of carbon emissions by these countries could be enough to result in a nearly 3 degrees of warming pathway to 2050, even if all other countries follow a 2DS pathway.**

- The 126 B&RCs accounted for just 28% of emissions in 2015. If they follow the conventional growth pathways (BAU) seen historically and the rest of the world follows 2DS, they could account for 66% of global emissions by 2050 and result in global carbon emissions double the 2DS level.
- If B&RCs follow historical carbon-intense growth patterns ('Worst in Class' growth), it may be enough to result in a 2.7 degree path even if the rest of the world adheres to 2DS levels of emissions.
- Annual emissions for the 126 B&RCs could be 39% lower in 2050 than business-as-usual levels, if B&RCs achieved 'commensurate historical best practices' (i.e. effectively deploying leading-edge green technologies already in use, at a pace commensurate with their stage of development measured by income per capita).
- However, a best in class growth scenario would still fall short of the reduction required to align with a 2DS, resulting in their carbon emissions still exceeding the aggregate 2DS budget by a huge margin, 17%, or 25Gt, by 2050.

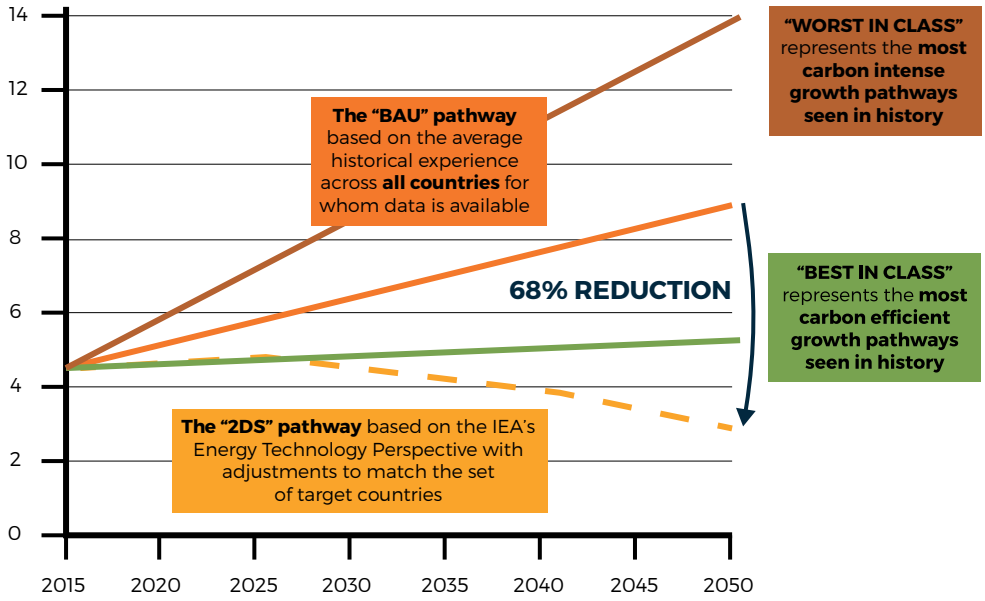


Figure 1. Compared to Business as Usual, a 2 Degree Scenario requires 68% lower carbon emissions in Belt & Road Countries by 2050

There are many factors that will influence the carbon footprint associated with the development trajectory of B&RCs.

Centrally, B&RCs must be the ultimate decision-makers in matters concerning their own development, including infrastructure choices (with their associated carbon and environmental outcomes). In that context, the BRI is relevant if it can offer B&RCs an opportunity to scale action more rapidly to accelerate the deployment of cost-effective, low-carbon infrastructure investment that in turn supports the transition of these countries to a sustainable development pathway.

It is imperative to ensure that meaningful actions are taken as soon as possible to substantially reduce the carbon footprint of new investments in B&RCs.

The window for such action is short, as infrastructure and real estate investment planning involve long lead times that determine the carbon intensity of assets for many decades to come.

Investor risk approaches will not be sufficient

To make matters worse, there are three reasons why progress made over recent years in raising the awareness of investors about climate risks is unlikely to be sufficiently effective on its own in preventing extensive, carbon-intensive investments in B&RCs.

1. Carbon and climate-related regulations in B&RCs are scarce and, where they exist, are often inadequately enforced. Strengthening these institutional arrangements is essential but will take a long time in most instances.
2. Many carbon-intensive assets in B&RCs are less sensitive to economic stranding as they will sit on public balance sheets.
3. Many cross-border, carbon-intensive infrastructure investments are de-risked by public institutions, e.g. from Export Credit Agencies (ECAs) and development banks.

The BRI itself provides an important opportunity to initiate such actions, given its focus on infrastructure investment and the potential it offers to support low-carbon development by combining policy, finance, expertise and technology resources from the international community.

To this end, we propose a series of interconnected interventions in countries involved in the Belt and Road Initiative, in China and internationally. The focus of our proposed roadmap is on the potential for leveraging financing arrangements in accelerating the low carbon transition, whilst recognising that this is only one part, albeit an important part, of the ambitious actions required.

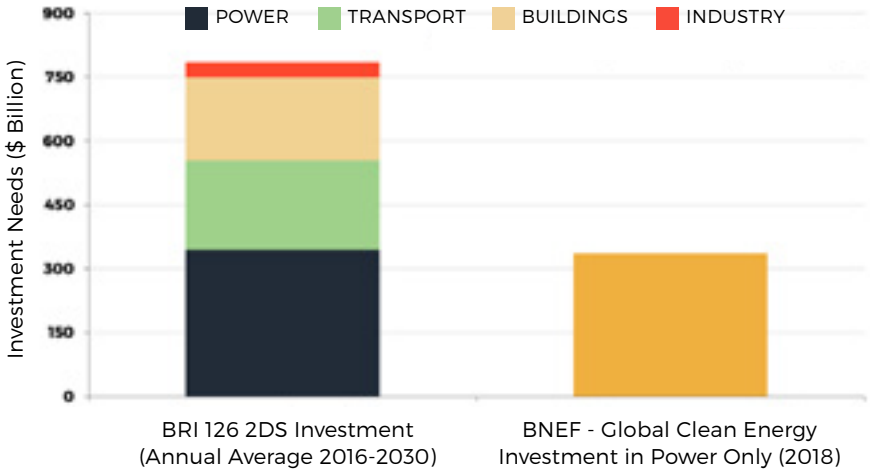


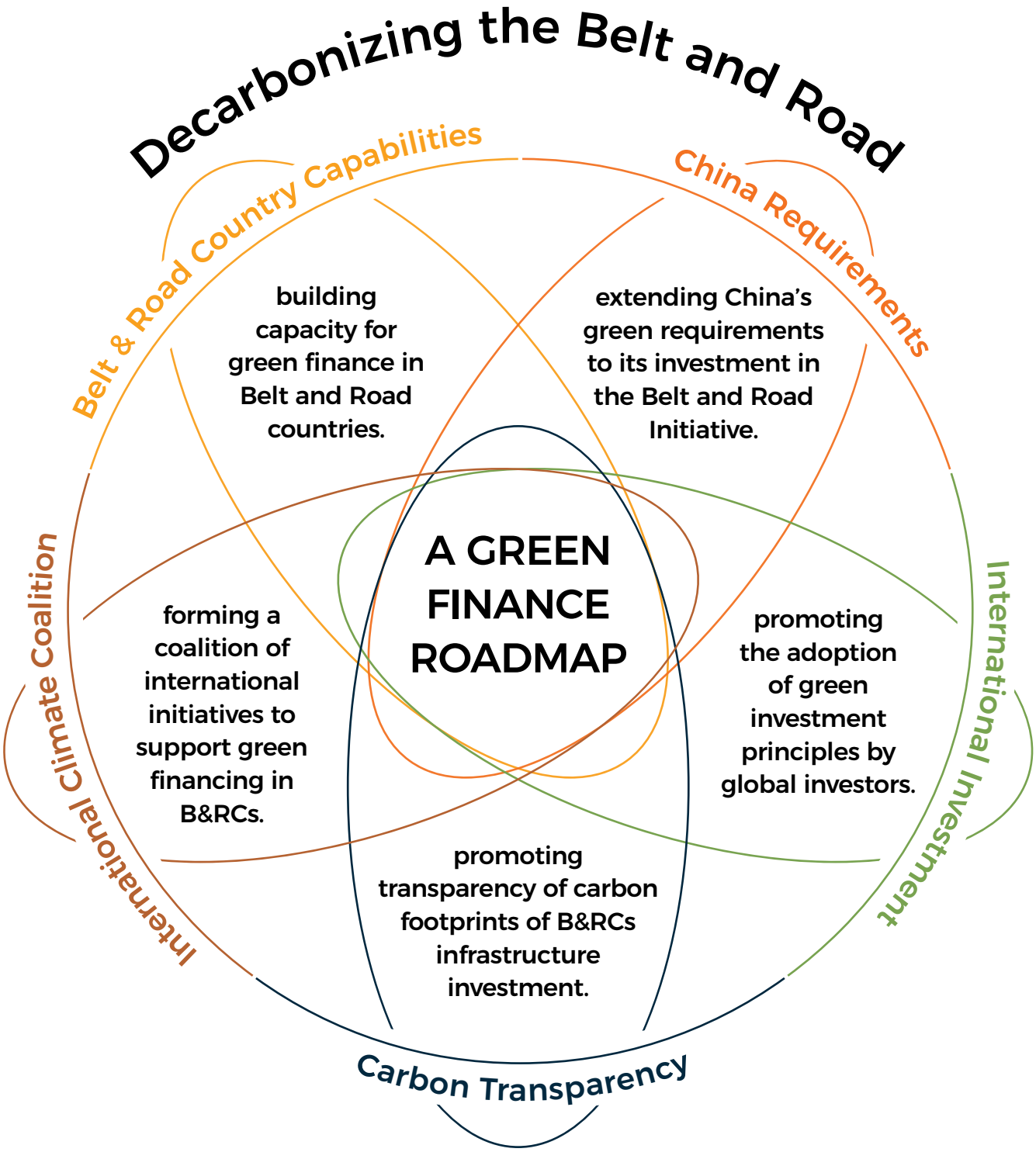
Figure 2. Annual green investment to align with a 2DS world for the 126 B&RCs is 2.4 times global clean energy investment in 2018

Source: Vivid Economics, IEA (2017), Bloomberg New Energy Finance (BNEF, 2019)

Report Methodology

***Decarbonizing the Belt and Road* is a first of its kind quantitative projection of the potential carbon emission trajectories of Belt and Road countries.**

Tsinghua CFD defined the set of 17 B&RCs for analysis, estimated the Chinese BRI investment into those countries and predicted future GDP growth patterns. Vivid Economics then used these GDP projections as input for energy demand and carbon emission modelling to illustrate different carbon pathways for the B&RCs up to 2050 and the scale of the 2DS challenge. The 2DS pathway is based on the International Energy Agency's Energy Technology Pathways scenarios for future energy use and emissions. Finally, Vivid Economics estimated the physical investment requirements along different pathways to assess where financing gaps may emerge in the future. A detailed explainer of the methodology is available in the full report.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A GREEN FINANCE ROADMAP
Belt & Road Country Capabilities
building capacity for green finance in Belt and Road countries.
China Requirements
extending China's green requirements to its investment in the Belt and Road Initiative.
International Investment
promoting the adoption of green investment principles by global investors.
Carbon Transparency
promoting transparency of carbon footprints of B&RCs infrastructure investment.
International Climate Coalition
forming a coalition of international initiatives to support green financing in B&RCs.

Belt and Road Country Capabilities:

building capacity for green finance in Belt and Road countries.

We propose establishing an international platform, possibly hosted by the UN, to support the intensive development of green finance across B&RCs and to meet the rapidly growing demand from these countries. A complementary focus would be on strengthening the capabilities of project owners and investors, as well as public sector procurement agencies, to procure green infrastructure solutions.

China Requirements:

extending China's green requirements to its investment in the Belt and Road Initiative.

This should involve applying mandatory environmental assessment requirements for Chinese investments in B&RCs. The newly launched Belt and Road Green Investment Alliance, which involves major ministries in China, could take a coordinating role in promoting this policy change. In addition, the China International Contractors Association (CHINCA) has the potential to play a leading role in forming a consortium of companies to deliver green infrastructure offerings in the B&R region.

International Investment:

promoting the adoption of green investment principles by global investors.

China and the UK have taken the initiative in developing a set of Green Investment Principles (GIP) covering investment in B&RCs. As of July 2019, 29 major Chinese and global institutions have signed up to the GIP. It is proposed that the GIP Secretariat, in partnership with international actors, further expand its membership, and build a focus on low-carbon investment policies and tools. GIP could also establish a green project database and report on progress in advancing low carbon investment across the B&RCs.

Carbon Transparency:

promoting transparency of carbon footprints of B&RCs infrastructure investment.

Given that infrastructure investments in B&RCs will have a defining impact on global carbon emissions in the future, it is imperative to improve disclosure of the climate impact of these projects. This should involve the recommendations of the Task Force on Climate Related Risk Disclosure, drawing on the capacities of existing initiatives such as the Carbon Disclosure Project, the UNEP Finance Initiative pilot, and the China-UK pilot on environmental/climate information disclosure. It should also involve the measuring and reporting of the life-cycle carbon footprint of infrastructure investments, set against the relevant climate goals and budgets.

International Climate Coalition:

forming a coalition of international initiatives to support green financing in B&RCs.

We propose to build a coalition among various international, regional and bilateral collaborative schemes, with a view to more effectively advancing low carbon and climate-resilient investments in B&RCs. This should build on the work of many institutions and on-going initiatives, but should focus specifically on financing issues associated with green and particular low carbon infrastructure development.

PARTNER ORGANISATIONS

The Center for Finance and Development, led by Dr. Ma Jun and established under Tsinghua National Institute of Financial Research, is dedicated to studying practical issues related to macroeconomy and finance and to providing recommendations for economic and financial policy makers. The Center aims to be an important think tank and play an active role in international dialogues on economic and financial issues. In addition to long-term themes, the Center also works with government agencies, regulators and financial institutions on research projects, and supports the work of the People's Bank of China (PBoC). Research priorities of the Center for the next few years include, among others, financial risk analysis, monetary policy, green finance, investment and financing mechanisms, and Belt & Road Initiative.

Vivid Economics generates lasting benefit for business and society by putting economics to good use. Using robust economic tools to tackle critical strategy issues confronting business and government, and working with a variety of clients and partners, they create solutions for the common good. Vivid Economics leverages a suite of analytic tools and broad expertise in macro and sector level modelling and econometrics to measure impact and efficiency of commercial and policy initiatives, analyse investment decisions under uncertain future scenarios and design and implement business and public strategies. Their work synthesises deep and rigorous analysis to draw out lucid answers to complex questions.

ClimateWorks helps climate leaders and philanthropists come together to be more strategic, efficient, and effective in their response to global climate change. They are a collaborative team of researchers, strategists, and grantmakers committed to the mission of mobilizing philanthropy to solve the climate crisis and ensure a prosperous future. Since 2008, ClimateWorks has provided $1B in grants to organizations around the world focused on solving climate change. For more information about their programs, grantmaking, and partnerships, visit www.climateworks.org.

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